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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,328	09/22/2005	Koji Okomori	159-87	3539
23117	7590	12/08/2009	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			SHEWAREGED, BETELHEM	
ART UNIT	PAPER NUMBER			
		1794		
MAIL DATE	DELIVERY MODE			
		12/08/2009	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/527,328	<b>Applicant(s)</b> OKOMORI ET AL.
	<b>Examiner</b> Betelhem Shewareged	<b>Art Unit</b> 1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 07 August 2009.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 6 and 8 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 6 and 8 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application Paper No(s)/Mail Date _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

1. Applicant's response filed on 08/07/2009 has been fully considered. Claims 1-5, 7 and 9 are canceled and claims 6 and 8 are pending.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai et al. (JP 2002-088679) in view of Matsumura et al. (JP 2002-161494), Ryu et al. (JP 2001-288690) and Shay et al. (US 5,478,602).

4. Claim 6: Kai teaches a coated paper for gravure printing provides a coated layer having pigment and an adhesive on a base paper. The coated paper for gravure printing is characterized by providing a coated layer containing 50 parts by weight or more (based on 100 parts by weight pigment) of kaolin as the pigment, having particle diameter distribution contained in an amount of ≥65% in a range of 0.4-4.2 µm based on volume (abstract). Kai further teaches that an organic pigment may be contained in the coating composition [0014]. Kai does not teach a hollow pigment as the organic pigment.

5. Matsumura teaches a gravure printing paper containing a paper and a coating layer containing a hollow organic pigment provided on the paper (abstract). The hollow

pigment has a particle size of 0.2-0.5 um [0011], and is contained in an amount of 5-20 parts by weight [0016].

6. Kai and Matsumura are analogous art because they are from the same field of endeavor that is the gravure coated paper art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the hollow organic pigment of Matsumura with the invention of Kai, and the motivation would be, as Matsumura suggests, to improve the glossiness property of the layer, provide precise coating and improve drying property of the layer [0012].

7. In one example, Kai teaches coating the base paper at a coating speed of 500m/min, and the invention of Kai is not limited to one example. However, Shay teaches a coated paper for gravure printing, wherein the coating is provided at a coating speed of 4000ft/min [1219m/min] (col. 14, line 40).

8. Kai and Shay are analogous art because they are from the same filed of endeavor that is the coated paper art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the coating at a higher coating speed, and the motivation would be, as Shay suggests, to reduce the water forced into the substrate (col. 13, lines 24-25), and to increase production of the coated paper without damaging.

9. In the examples of Kai, sheet gloss and density have been taught (see Table 2); however, the invention of Kai is not limited to the examples. The Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients. Therefore, the claimed

effects and physical properties, i.e. a sheet gloss and density would implicitly be achieved by a composite with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

10. Claim 8: Kai does not teach the base paper contains amorous silicate in an amount of 3-12% by weight. However, Ryu teaches a paper containing silicate [0010] in an amount of 3 or less weight % [0011], wherein the amount over laps with the claimed value of 3-12%. Kai and Ryu are analogous art because they are from similar problem solving area in relation to base paper. At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the silicate of Ryu with the invention of Kai, and the motivation would be, as Ryu suggests, controlling coefficient of friction and printing opacity of the paper [0011].

11. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai et al. (JP 2002-088679) in view of Sasaki et al. (JP 11-279990), Ryu et al. (JP 2001-288690) and Shay et al. (US 5,478,602).

12. Claim 6: Kai teaches a coated paper for gravure printing provides a coated layer having pigment and an adhesive on a base paper. The coated paper for gravure printing is characterized by providing a coated layer containing 50 parts by weight or more (based on 100 parts by weight pigment) of kaolin as the pigment, having particle

diameter distribution contained in an amount of  $\geq 65\%$  in a range of 0.4-4.2  $\mu\text{m}$  based on volume (abstract). Kai further teaches that an organic pigment may be contained in the coating composition [0014]. Kai does not teach a hollow pigment as the organic pigment.

13. Sasaki teaches a gravure printing paper containing a paper and a coating layer having a hollow organic pigment provided on the paper (abstract), wherein the hollow pigment has a particle size of 0.4-2.0  $\mu\text{m}$  [0016], in amount of 3-15% by weight [0014].

14. Kai and Sasaki are analogous art because they are from the same field of endeavor that is the gravure coated paper art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the hollow organic pigment of Sasaki with the invention Kai, and the motivation would be, to enhance the ink receiving property of the layer.

15. In one example, Kai teaches coating the base paper at a coating speed of 500m/min, and the invention of Kai is not limited to one example. However, Shay teaches a coated paper for gravure printing, wherein the coating is provided at a coating speed of 4000ft/min [1219m/min] (col. 14, line 40).

16. Kai and Shay are analogous art because they are from the same field of endeavor that is the coated paper art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the coating at a higher coating speed, and the motivation would be, as Shay suggests, to reduce the water forced into the substrate (col. 13, lines 24-25), and to increase production of the coated paper without damaging.

17. In the examples of Kai, sheet gloss and density have been taught (see Table 2); however, the invention of Kai is not limited to the examples. The Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients. Therefore, the claimed effects and physical properties, i.e. a sheet gloss and density would implicitly be achieved by a composite with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

18. Claim 8: Kai does not teach the base paper contains amorous silicate in an amount of 3-12% by weight. However, Ryu teaches a paper containing silicate [0010] in an amount of 3 or less weight % [0011], wherein the amount over laps with the claimed value of 3-12%. Kai and Ryu are analogous art because they are from similar problem solving area in relation to base paper. At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the silicate of Ryu with the invention of Kai, and the motivation would be, as Ryu suggests, controlling coefficient of friction and printing opacity of the paper [0011].

***Response to Arguments***

Comparison of the present invention with each of the cited documents

(a) JP-A-2002-88679 (Kai)

19. Applicant argued that the reference of Kai identifies the disadvantages/problems of adding an organic pigment to kaolin as a pigment, in which 65% or more of particles are in the particle diameter range of from 0.4 to 4.2 um based on volume. Accordingly, a combination of the specific inorganic pigment and specific hollow sphere (organic) synthetic pigment, as in the present invention, goes against the teachings of Kai. **This argument is not persuasive** because, in one embodiment of Kai, it is taught that an organic pigment may be mixed in the coating composition forming the coated layer (see [0014]).

20. Applicant also argued that the inorganic pigment of the present invention has a volume-based distribution in which 65% or more of the particles are in the particle diameter range of 0.4-4.2 um. This particle size distribution is narrow, and a coating color containing the inorganic pigment having such distribution has high viscosity. Accordingly, it is not easy to coat a base paper and coating runability will become worse. **This argument is not persuasive for the following reason.** In the abstract of Kai it is disclosed that the kaolin as the pigment, has particle diameter distribution contained in an amount of  $\geq 65\%$  in a range of 0.4-4.2  $\mu\text{m}$  based on volume. Thus the particle size distribution of Kai is substantially identical to the claimed particle size distribution.

21. Applicant further argued that, in Kai, the coating speed was 500 m/min (see Example 1), while in contrast it is reported that an excellent coating suitability could be established in the Example of the present invention even at a coating speed of 800 or 1100 m/min. Further, the coated paper according to the present invention has an

excellent coating runability, a low density, a high sheet gloss, a high print gloss, and a good suitability for gravure printing. **This argument is not persuasive because**, in the rejections above, the Examiner relies upon the reference of Shay to teach the claimed coating speed.

(b) JP-A-2002-161494 (Matsumura)

22. Applicant's argument is based on that although Matsumura is common to the present invention in using an organic hollow pigment of from 0.2 to 0.5 um in particle diameter, no reference is made therein to an inorganic pigment in which 65% or more of particles are in the particle diameter range of from 0.4 to 4.2 um based on volume, as specified in the present invention. **This argument is not persuasive because**, in the rejection above, the reference of Matsumura is used to teach only the claimed hollow pigment; Matsumura is not used to teach the claimed particle size distribution of the inorganic pigment. The claimed particle size distribution of the inorganic pigment is taught by the reference of Kai.

(c) JP-A-H11-279990 (Sasaki)

23. Applicant's argument is based on that, in Sasaki, although a hollow organic pigment is disclosed, there is no disclosure or suggestion to use an inorganic pigment in which 65% or more of particles are in the particle diameter range of from 0.4 to 4.2um. **This argument is not persuasive because**, in the rejection above, the reference of Sasaki is used to teach only the claimed hollow pigment; Sasaki is not used to teach the

claimed particle size distribution of the inorganic pigment. The claimed particle size distribution of the inorganic pigment is taught by the reference of Kai.

(d) JP-A-2001-288690 (Ryu)

24. Applicant's argument is based on that since Ryu's printing paper has no coating layer containing such a pigment as specified in the present invention, it corresponds not to the **coated** paper according to the present invention but to a so-called **uncoated** paper. Accordingly, it completely differs from the **coated** paper of the present invention where a coating layer containing an inorganic pigment in which 65% or more of particles are in the particle diameter range of from 0.4 to 4.2 um and an organic (synthetic) hollow pigment having a mean particle diameter of from 0.1 to 0.6um is formed. **This argument is not persuasive** because, in the rejections above, the reference of Ryu is not used to teach the claimed coating layer; Ryu is used to teach the claimed silicate in the base paper. The claimed coating layer containing an inorganic pigment in which 65% or more of particles are in the particle diameter range of from 0.4 to 4.2 um is taught by the reference of Kai; and the claimed organic (synthetic) hollow pigment is taught by either the reference of Matsumura or by the reference of Sasaki.

The present invention and combinations of Kai, Matsumura, Sasaki and Ryu

25. To clarify the record, in the rejection above, the reference of Matsumura and the reference of Sasaki were never combined with each other.

26. Applicant's argument is based on that the knowledge of [0006] of Kai teaches away from the present invention. In addition, Kai does not suggest the reader to use an organic (synthetic) hollow pigment having a small particle diameter which is "hollow" and has a mean particle diameter of from 0.1 to 0.6um as specified in the present invention. **This argument is not persuasive for the following reason.** In one embodiment of Kai, it is taught that an organic pigment may be mixed in the coating composition forming the coated layer (see [0014]). Kai does not teach a hollow pigment as the organic pigment, thus the Examiner combined the hollow pigment of Matsumura, Sasaki or Hayashi with the invention of Kai, and the motivation for combining was to control the glossiness property and improve drying property.

27. Applicant also argued that the print gloss in Kai is not so high compared with the sheet gloss. For example, the coating speed was 500m/min in Example 1 of Kai, while it is indicated that an excellent coating suitability could be established in the Example of the present invention even at a coating speed of 800 or 1100 m/min {the claimed coating speed is 1000m/min}. **This argument is not persuasive for the following reason.** Examiner relies upon the reference of Shay to teach the claimed coating speed. Shay teaches a coated paper for gravure printing, wherein the coating is provided at a coating speed of 4000ft/min [1219m/min]. Thus at the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the coating at a higher coating speed in order to reduce the water forced into the substrate (see col. 13, lines 24-25 of Shay), and to increase production of the coated paper without damaging.

Art Unit: 1794

28. Applicant further argued that, in Matsumura, it is mentioned to use an organic hollow pigment of from 0.2 to 0.5 um in particle diameter. However, it is neither mentioned nor suggested that the coating runability becomes excellent thereby (in Matsumura, evaluation was conducted exclusively at a coating speed of 450 m/min). It is neither mentioned nor suggested that the sheet gloss and print gloss are elevated or the missing dots are reduced. So how could a person skilled in this art easily conceive of the present invention based on the combination of Kai with Matsumura? Ryu relates not to a coated paper having a coating layer containing a pigment but to an uncoated paper provided with a pigment-free coating layer. **This argument is not persuasive for the following reason(s).** In the rejection above, the reference of Matsumura was never used to teach the claimed coating speed; instead the reference of Shay is used to teach the claimed coating speed. In the rejection above, it was shown that Kai does not teach a hollow pigment as the organic pigment. However, Matsumura teaches the claimed hollow pigment having a particle size of 0.2-0.5 um. Kai and Matsumura are analogous art because they are from the same field of endeavor that is the gravure coated paper art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the hollow pigment of Matsumura with the invention of Kai in order to improve the glossiness property of the layer, to provide precise coating and to improve drying property of the layer (see prior art rejection above).

29. Regarding Ryu, in the rejections above, the reference of Ryu is not used to teach the claimed coating layer; Ryu is used to teach the claimed silicate in the base paper. The claimed coating layer containing an inorganic pigment in which 65% or more of

particles are in the particle diameter range of from 0.4 to 4.2 um is taught by the reference of Kai; and the claimed organic (synthetic) hollow pigment is taught by either the reference of Matsumura or by the reference of Sasaki.

30. Applicant also argued that it is stated in Sasaki to employ hollow polymer particles having a diameter of from 0.4 to 2.0um, the hollow polymer particles employed in the Example had a diameter of 1.0um that is excluded from the scope as defined in the present invention (much too large). **This argument is not persuasive for the following reason.** Even though the particle diameter of the hollow particle of Sasaki is from 0.4 to 2.0um, of which the particle diameter of 0.4-0.6um is still within the claimed range; thus the claimed invention reads on the reference of Sasaki when the particle diameter of the hollow particle of Sasaki is 0.4-0.6um.

31. For the above reasons claims 6 and 8 stand rejected.

32. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai et al. (JP 2002-088679) in view of Hayashi et al. (JP 06-235194), Ryu et al. (JP 2001-288690) and Shay et al. (US 5,478,602).

33. Claim 6: Kai teaches a coated paper for gravure printing provides a coated layer having pigment and an adhesive on a base paper. The coated paper for gravure printing is characterized by providing a coated layer containing 50 parts by weight or more (based on 100 parts by weight pigment) of kaolin as the pigment, having particle diameter distribution contained in an amount of ≥65% in a range of 0.4-4.2 μm based on volume (abstract). Kai further teaches that an organic pigment may be contained in the

coating composition [0014]. Kai does not teach a hollow pigment as the organic pigment.

34. Hayashi teaches a gravure printing paper containing a paper and a coating layer containing a hollow organic pigment provided on the paper (abstract), wherein the hollow pigment has a particle size of 0.5-3.0 um in an amount of 2-30 parts by weight [0004].

35. Kai and Hayashi are analogous art because they are from the same field of endeavor that is the gravure coated paper art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the hollow organic pigment of Hayashi with the invention of Kai, and the motivation would be to enhance the printing property and glossiness of the layer.

36. In one example, Kai teaches coating the base paper at a coating speed of 500m/min, and the invention of Kai is not limited to one example. However, Shay teaches a coated paper for gravure printing, wherein the coating is provided at a coating speed of 4000ft/min [1219m/min] (col. 14, line 40).

37. Kai and Shay are analogous art because they are from the same field of endeavor that is the coated paper art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the coating at a higher coating speed, and the motivation would be, as Shay suggests, to reduce the water forced into the substrate (col. 13, lines 24-25), and to increase production of the coated paper without damaging.

Art Unit: 1794

38. In the examples of Kai, sheet gloss and density have been taught (see Table 2); however, the invention of Kai is not limited to the examples. The Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients. Therefore, the claimed effects and physical properties, i.e. a sheet gloss and density would implicitly be achieved by a composite with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

39. Claim 8: Kai does not teach the base paper contains amorous silicate in an amount of 3-12% by weight. However, Ryu teaches a paper containing silicate [0010] in an amount of 3 or less weight % [0011], wherein the amount over laps with the claimed value of 3-12%. Kai and Ryu are analogous art because they are from similar problem solving area in relation to base paper. At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the silicate of Ryu with the invention of Kai, and the motivation would be, as Ryu suggests, controlling coefficient of friction and printing opacity of the paper [0011].

***Response to Arguments***

40. Applicant is non-responsive to the rejected under 35 U.S.C. 103(a) as being unpatentable over Kai et al. (JP 2002-088679) in view of Hayashi et al. (JP 06-235194), Ryu et al. (JP 2001-288690) and Shay et al. (US 5,478,602).

41. Applicant should submit an argument under the heading “Remarks” pointing out disagreements with the examiner’s contentions. Applicant must also discuss the references applied against the claims, explaining how the claims avoid the references or distinguish from them.

***Conclusion***

42. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

43. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

44. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is (571)272-1529. The examiner can normally be reached on Monday-Friday 7am-4:30pm.

45. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on 571-272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

46. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BS  
December 4, 2009

/Betelhem Shewareged/  
Primary Examiner, Art Unit 1794